

REMARKS

If the Examiner believes that there are any unresolved issues in any of the claims now pending in the application, the Examiner is urged to telephone Edward M. Fink, Esq. at (732) 563-0440 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Claim amendments

Claims 51-90 are presently in the application.

Rejections under 35 U.S.C. § 112

Claims 62, 64, 76, 79, 85, 87 and 90 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter of the invention. The Examiner objects to the use of the term "in particular" and "preferably". In order to obviate the rejection, these terms have been deleted from the subject claims. accordingly, the rejection is no longer applicable.

Rejections under 35 U.S.C. § 103

Claims 51-90 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu et al in view of Wittwer et al. The Examiner urges that Shimizu et al discloses or suggests the basic method of manufacturing products in a mold, the products including a first and

second mass comprising natural polymers coupled with the injection of chitosan as a functional means.

The Examiner further urges that the products are manufactured in this manner by bringing masses into or through a mold with the masses being heated therein. The Examiner concedes that Shimizu et al do not disclose cross linking of natural polymers but urges that the secondary reference Wittwer discloses this concept. The conclusion is then reached that it would be obvious to one skilled in the art to provide for cross linking of the natural polymers of Shimizu in order to provide a stable molded article. This rejection is traversed as follows:

Applicant urges that the present invention is directed to a method for the preparation of products using two different masses, each of which comprises natural polymers such as starch, the masses being introduced into the same mold cavity during injection periods which at least partially overlap each other. The masses are then heated with the mold cavity to obtain cross linking of the natural polymers in each of the masses. This means that a product is obtained having at least two parts, each of said parts being made of a different mass, and, therefore each of which has different material properties. Each of the parts so obtained are adjacent to each other and each forms at least part of an outer surface of a product due to the method employed and, especially, the molds used.

The Examiner has alluded to the Shimizu et al reference in view of Wittwer et al. The Shimizu et al reference is directed to a well known method for injection

molding of plastic products having an outer shell and an inner core, the outer shell being made of a plastic material which is injected in a liquid form (heated) and is then cooled within the mold cavity. Following injection and partial cooling of the plastic material a gas is introduced into the core of the product to obtain a void therein in which void a second mass is injected. The second mass is then made to set to obtain a solid product.

In light of the foregoing, it is evident that Shimizu et al do not disclose injection of two masses, each of the masses comprising a natural polymer. The Examiner directs our attention to one single embodiment of Shimizu et al (column 9, lines 48-52) which discloses a biodegradable plastic as a second mass to be introduced in to the plastic outer shell. The Examiner further notes column 8, line 64 which discloses an additive for the filler material. Accordingly, this reference clearly does not disclose using masses comprising natural polymers for both masses.

Furthermore, Shimizu et al do not disclose heating the first and second mass in the mold. On the contrary, the patentees teach that the mold should be used to cool the masses in order to make them set. As indicated throughout the Shimizu et al disclosure, the materials used for the masses are either materials that solidify and set when cooled, for example, thermoplastics, or materials that set by evaporating solvent such as biodegradable plastics and the like. Accordingly, it is evident that Shimizu et al do not disclose the claimed concept but rather teach away from heating the masses within the mold cavity.

Still further, Shimizu et al disclose that it is necessary that the injection of the second mass start when the injection of the first mass has long been needed since gas has to be introduced into the plastic first mass in order to obtain a void therein which is only possible when all of the plastic material has been injected. Accordingly, there is no overlap in time of injection of the first and second mass. And, of course, there is no disclosure of the simultaneous introduction of the first and second mass into the mold.

And still further, Shimizu et al do not disclose obtaining products in which both the first and second mass form at least a part of the surface of the product.

With regard to the concept of cross linking, Shimizu et al make no reference to any such process nor is there any disclosure therein which renders this concept obvious. In fact, the patentees teach away from heating the masses within the mold. On the contrary, the patentees teach away from heating the masses within the mold. Even if a natural polymer were to be present in these masses, these would not be made to crosslink within the mold since the material is cooled and not heated within the mold. In order to eliminate this deficiency, the Examiner relies upon Wittwer et al.

Clearly, Wittwer et al disclose cross linking of natural polymers. The concept of cross linking is a well known concept in the field of manufacturing natural polymers. However, it is completely novel and inventive in a method as disclosed in the instant application. The Examiner is

clearly in error in combining the cited references since the cross linking which might occur would only apply to the core material and only in the specific embodiment disclosed in column 9 at line 48 which would lead to cross linking within the core which is contrary to the teaching of Shimizu et al. The core made of the biodegradable material is not said to have structural rigidity since it is only the core. Accordingly, one skilled in the art would not start from the Shimizu et al teaching since it does not disclose using a first and second mass each comprising a natural polymer and even if one skilled in the art would start from the Shimizu et al teaching, they would not combine the teaching of Wittwer et al since this reference is also not directed to a method using two masses each comprising a natural polymer nor to forming products therewith. And, as previously stated, even if one skilled in the art would construct this combination, they would not arrive at the teachings of applicant since it would still fail to disclose a method in accordance with claim 51 using two different masses each comprising a natural polymer which masses are brought into a mold cavity in at least partly overlapping time intervals, nor heating in a mold cavity in order to obtain cross linking of natural polymers.

Accordingly, it is urged that the generic claims set forth in the instant application are novel and inventive over the teachings of Shimizu et al standing alone or in combination with Wittwer et al.

With regard to claims 67-78, the Examiner should note that it may be common knowledge to coat products. However, this concept is not known for the present type of

products, especially not using different coatings on different parts of products in order to obtain different material properties. Moreover, it is neither known nor obvious to cover a part of a product prior to providing a coating on such products in order to influence only part of the surfaces. This is particularly the case when forming food containers. Moreover, it is not known to apply two coatings, one over the other.

With regard to claim 79, although it may be known to make clamshells, these have never been made according to the present invention. Especially, not with a living hinge. Moreover, it is neither known or obvious to do so wherein the material properties of the hinge are influenced, for example, by coating or by leaving out such coating. Accordingly, this claim is clearly novel and inventive.


Conclusion

In light of the foregoing, the application is now believed to be in condition for allowance and action to that effect is most earnestly solicited.

Reconsideration and allowance of claims 51-90 are most earnestly solicited.

Respectfully submitted,

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